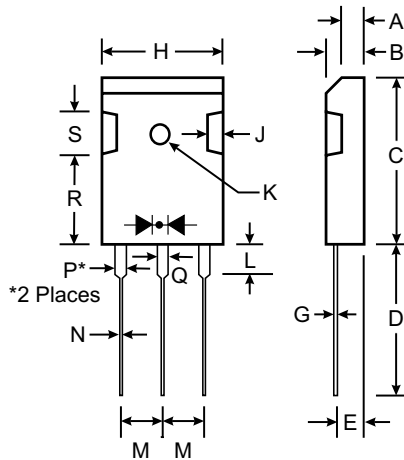


### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 5.6 grams (approx.)
- Mounting Position: Any



TO-3P		
Dim	Min	Max
A	3.20	3.50
B	4.59	5.16
C	20.80	21.30
D	19.70	20.20
E	2.10	2.40
G	0.51	0.76
H	15.90	16.40
J	1.70	2.70
K	3.10 $\varnothing$	3.30 $\varnothing$
L	3.50	4.51
M	5.20	5.70
N	1.12	1.22
P	1.93	2.18
Q	2.97	3.22
R	11.70	12.80
S	4.30 Typical	
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	MBR 4030PT	MBR 4035PT	MBR 4040PT	MBR 4045PT	MBR 4050PT	MBR 4060PT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	30	35	40	45	50	60	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	21	24.5	28	31.5	35	42	V
Average Rectified Output Current @ T <sub>C</sub> = 125°C (Note 1)	I <sub>O</sub>	40						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	400						A
Forward Voltage Drop @ I <sub>F</sub> = 20A, T <sub>C</sub> = 25°C @ I <sub>F</sub> = 20A, T <sub>C</sub> = 125°C	V <sub>FM</sub>	0.70 0.60			0.80 0.70			V
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>C</sub> = 25°C @ T <sub>C</sub> = 125°C	I <sub>RM</sub>	1.0 100						mA
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	1100						pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJc</sub>	1.4						K/W
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10,000						V/μs
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-65 to +150						°C

- Notes: 1. Thermal resistance junction to case mounted on heatsink.  
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

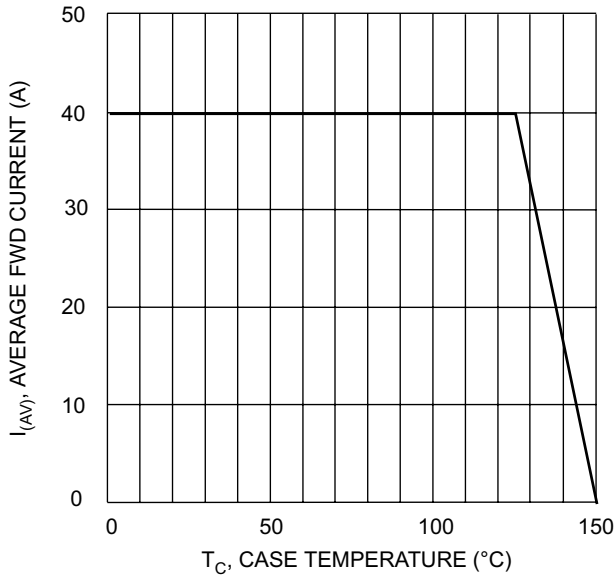


Fig. 1 Fwd Current Derating Curve

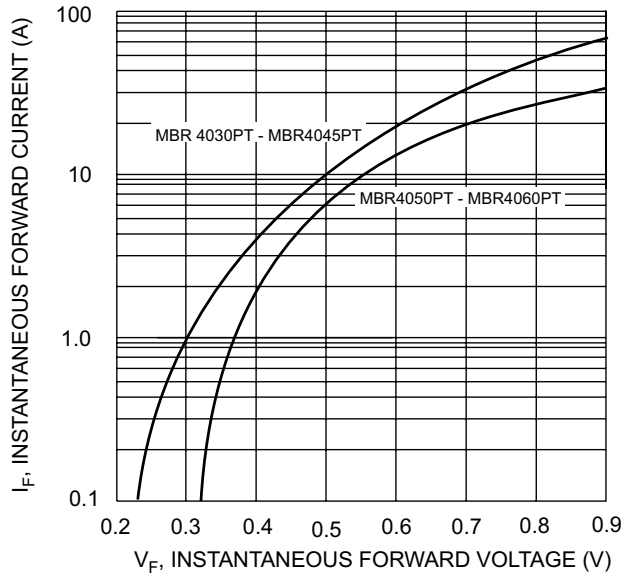


Fig. 2 Typical Forward Characteristics (per element)

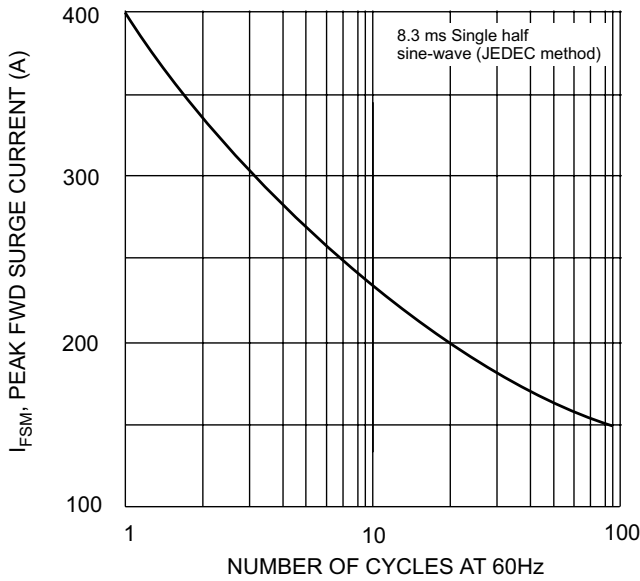


Fig. 3 Max Non-Repetitive Surge Current

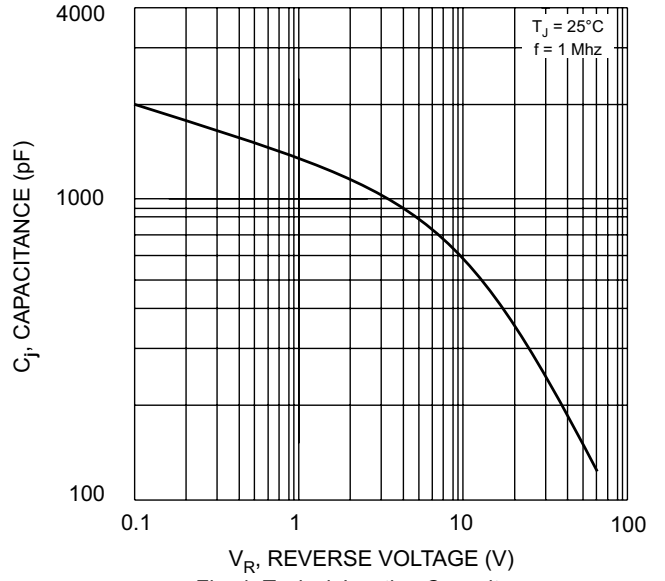


Fig. 4 Typical Junction Capacitance

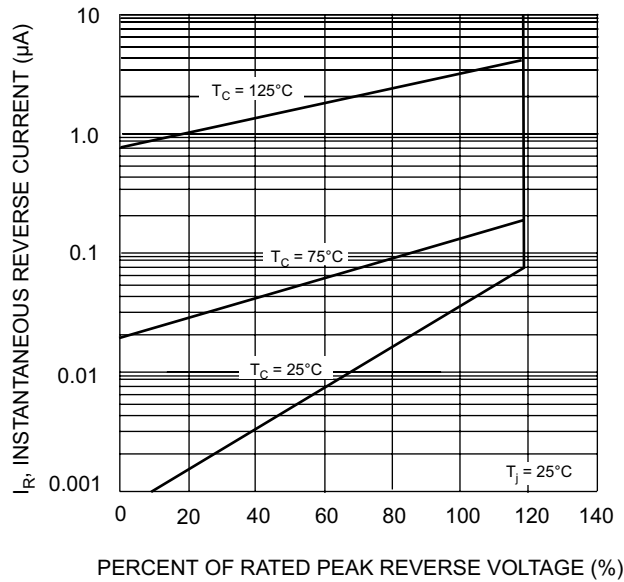


Fig. 5 Typical Reverse Characteristics